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09/835,592	04/17/2001	Kuen-Dong Ha	P56280	8201

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EXAMINER

HARPER, HOLLY R

ART UNIT

PAPER NUMBER

2879

DATE MAILED: 08/13/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/835,592

Applicant(s)

HA ET AL.

Examiner

Holly R. Harper

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-38 is/are pending in the application.
- 4a) Of the above claim(s) 1, 14 and 16 is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-12, 15 and 17-37 is/are rejected.
- 7) ☒ Claim(s) 38 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 April 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). ____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____ 6) ☐ Other: ____

DETAILED ACTION

Response to Amendment

The Amendment, filed 6/10/2003, has been entered and acknowledged by the Examiner.

Claims 13, 14, and 16 have been canceled.

Claims 1, 5, 8-11, 17, and 20 have been amended.

Claims 21-38 have been added.

Claim Objections

Claim 38 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Claim 38 has the same structural limitations as claim 30. Because claim 38 is dependent on claim 30, it fails to further limit the parent claim.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

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2. Claims 1, 2, 4, 5, 10, and 31 are rejected under 35 U.S.C. 102(e) as being anticipated by Gorog et al. (USPN 6,300,712) hereinafter "Gorog".

Regarding claim 1, the Gorog reference discloses an assembly for supporting a mask frame to a stud of a panel in a cathode ray tube (Figure 2). The mask frame has a rectangular rim in parallel with the tube axis and a flange vertically extending from a rear end of the rectangular rim. The shadow mask has a skirt fixed on an inside surface of a front end of the rectangular rim (Figure 1). The shadow mask has a first plane perpendicular to the tube axis and passing a central surface of the shadow mask. The Gorog reference also discloses a bracket with a suspending arm joined by a connecting arm to a fixing arm (Figure 5). The suspending arm and fixing arm are spaced apart from each other and in parallel with the tube axis. The suspending arm has a hole coupled to the stud. The fixing arm is fixed on an outside surface of the rectangular rim of the mask frame. The connecting arm has a second plane substantially parallel to the first plane of the shadow mask and spaced apart from the first plane by a first distance. The first distance is greater than a second distance between the first plane and a third plane passing a center line of the stud (Figure 5).

Regarding claim 2, the Gorog reference discloses that the connecting arm is perpendicular to both the fixing arm and the suspending arm (Figure 5).

Regarding claim 4, the recitation "characteristic for absorbing vibration transmitted from both said mask frame and said panel and offsetting the vibration" has not been given patentable weight because is considered an intended used recitation. It has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not

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differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations.

Regarding claim 5, the Gorog reference discloses that the suspending arm, connecting arm, and fixing arm are made in a single body and a flat plate (Figure 5).

Regarding claim 10, the Gorog reference discloses that the skirt of the shadow mask is closer to the third plane of the stud than the second plane of the connecting arm (Figure 5).

Regarding claim 31, the Gorog reference discloses an assembly for supporting a mask frame to a stud of a panel in a cathode ray tube (Figure 2). The mask frame has a rectangular rim in parallel with the tube axis and a flange vertically extending from a rear end of the rectangular rim (Figure 1). The shadow mask has a skirt fixed on an inside surface of a front end of the rectangular rim (Figure 1). The shadow mask has a first plane perpendicular to the tube axis and passing a central surface of the shadow mask. The Gorog reference also discloses a bracket with a suspending arm joined by a connecting arm to a fixing arm and made in a single body (Figure 5). The suspending arm and fixing arm are flat plates and parallel to each other. The suspending arm and fixing arm are spaced apart from each other and in parallel with the tube axis. The suspending arm has a hole coupled to the stud (Figure 5, Element 54). The fixing arm is fixed on an outside surface of the rectangular rim of the mask frame. The connecting arm has a second plane substantially parallel to the first plane of the shadow mask and spaced apart from the first plane by a first distance. The first distance is greater than a second distance between the first plane and a third plane passing a center line of the stud (Figure 5). The skirt of the shadow mask is closer to the third plane of the stud than to the second plane of the connecting arm (Figure 5).

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Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 3, 6-9, 23-30, and 32-38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gorog et al. (USPN 6,300,712) hereinafter "Gorog".

Regarding claim 3, the Gorog reference discloses the claimed invention except for the limitation of a connecting arm having a length of 5-40 mm. It has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. Thus, it would have been obvious to one of ordinary skills in the art at the time the invention was made to have a connecting arm with a length of 5-40 mm, since discovering an optimum value of a result variable is considered within the skills of the art.

Regarding claims 6 and 8, the Gorog reference discloses the claimed invention except for the limitation of the connecting arm being wave shaped and round. It has been held that a change in size is generally recognized as being within the level of ordinary skill in the art. It would have been obvious to one having ordinary skill in the art to alter the shape of the connecting arm to wave shaped and round, since such a modification would have involve a mere change in the shape of a component.

Regarding claim 7, the Gorog reference discloses the claimed invention except for the limitation of the fixing arm and suspending arm being spaced apart by a length of 5-40 mm. It

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has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. Thus, it would have been obvious to one of ordinary skills in the art at the time the invention was made to space the fixing arm and suspending arm 5-40 mm apart, since discovering an optimum value of a result variable is considered within the skills of the art.

Regarding claim 9, the Gorog reference discloses the claimed invention except for the limitation that the flange of the mask frame is placed on the second plane of the connecting arm. However it is noted that the placement of the flange of the mask frame on the connecting arm is not shown to solve any problems or yield any unexpected results that are not within the scope of Gorog's mask frame assembly. Accordingly, the placement of the flange of the mask frame on the connecting arm is considered to be an obvious matter of design choice.

Regarding claim 23, the Gorog reference discloses an assembly for supporting a mask frame to a stud of a panel in a cathode ray tube (Figure 2). The mask frame has a rectangular rim in parallel with the tube axis and a flange vertically extending from a rear end of the rectangular rim. The shadow mask has a skirt fixed on an inside surface of a front end of the rectangular rim (Figure 1). The shadow mask has a first plane perpendicular to the tube axis and passing a central surface of the shadow mask. The Gorog reference also discloses a bracket with a suspending arm joined by a connecting arm to a fixing arm in a single body (Figure 5, Element 61). The suspending arm and fixing arm are flat plates and parallel to each other. The suspending arm and fixing arm are spaced apart from each other and in parallel with the tube axis. The suspending arm has a hole coupled to the stud (Figure 5, Element 54). The fixing arm is fixed on an outside surface of the rectangular rim of the mask frame. The connecting arm has a second plane substantially parallel to the first plane of the shadow mask and spaced apart from

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the first plane by a first distance. The first distance is greater than a second distance between the first plane and a third plane passing a center line of the stud (Figure 5).

The Gorog reference does not disclose the flange of the rectangular rim is disposed in the second plane of the connecting arm. However, it is noted that the placement of the connecting arm in relation to the flange of the rectangular rim is not shown to solve any problems or yield any unexpected results that are not within the scope of Gorog's bracket assembly. Accordingly, the placement of the connecting arm in relation to the flange of the rectangular rim is considered to be an obvious matter of design choice.

Regarding claim 24, the Gorog reference discloses that the connecting arm is perpendicular to both the fixing arm and the suspending arm (Figure 5).

Regarding claim 25, the Gorog reference discloses the connecting arm being right angled to the fixing arm (Figure 5).

Regarding claim 26, the recitation "characteristic for absorbing vibration transmitted from both said mask frame and said panel and offsetting the vibration" has not been given patentable weight because is considered an intended used recitation. It has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations.

Regarding claim 27, the Gorog reference discloses that the bracket has a bent portion formed between the connecting arm and the suspending arm (Figure 5).

Regarding claim 28, the Gorog reference discloses the claimed invention except for the limitation of the connecting arm having a length of 5-40 mm. It has been held that discovering an

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optimum value of a result effective variable involves only routine skill in the art. Thus, it would have been obvious to one of ordinary skills in the art at the time the invention was made to make a connecting arm with a length of 5-40 mm, since discovering an optimum value of a result variable is considered within the skills of the art.

Regarding claim 29, the Gorog reference discloses the claimed invention except for the limitation of the fixing arm and suspending arm being spaced apart by a length of 5-40 mm. It has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. Thus, it would have been obvious to one of ordinary skills in the art at the time the invention was made to space the fixing arm and suspending arm 5-40 mm apart, since discovering an optimum value of a result variable is considered within the skills of the art.

Regarding claim 30, the Gorog reference discloses a bracket having an opening formed between the free ends of the suspending arm and fixing arm and the opening opposite to the connecting arm. The Gorog reference also discloses a stud disposed between the opening and the connecting arm (Figure 5).

Regarding claim 32, the Gorog reference discloses that the connecting arm is perpendicular to both the fixing arm and the suspending arm (Figure 5).

Regarding claim 33, the Gorog reference discloses the connecting arm being right angled to the fixing arm (Figure 5).

Regarding claim 34, the recitation “characteristic for absorbing vibration transmitted from both said mask frame and said panel and offsetting the vibration” has not been given patentable weight because is considered an intended used recitation. It has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed

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does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations.

Regarding claim 35, the Gorog reference discloses that the bracket has a bent portion formed between the connecting arm and the suspending arm (Figure 5).

Regarding claim 36, the Gorog reference discloses the claimed invention except for the limitation of the connecting arm having a length of 5-40 mm. It has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. Thus, it would have been obvious to one of ordinary skills in the art at the time the invention was made to make a connecting arm with a length of 5-40 mm, since discovering an optimum value of a result variable is considered within the skills of the art.

Regarding claim 37, the Gorog reference discloses the claimed invention except for the limitation of the fixing arm and suspending arm being spaced apart by a length of 5-40 mm. It has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. Thus, it would have been obvious to one of ordinary skills in the art at the time the invention was made to space the fixing arm and suspending arm 5-40 mm apart, since discovering an optimum value of a result variable is considered within the skills of the art.

5. Claims 11, 12, 15, and 17-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gorog et al. (USPN 6,300,712) hereinafter "Gorog" in view of Yun (Korean 1997-046531).

Regarding claim 11, the Gorog reference discloses an assembly for supporting a mask frame to a stud of a panel in a cathode ray tube (Figure 2). The mask frame has a rectangular rim in parallel with the tube axis. The shadow mask has a skirt fixed on an inside surface of a front end of the rectangular rim. The shadow mask has a first plane perpendicular to the tube axis and

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passing a central surface of the shadow mask (Figure 1). The Gorog reference also discloses a bracket with a suspending arm joined by a connecting arm to a fixing arm and being made in a single body. The suspending arm and fixing arm are flat plates and parallel to each other. The suspending arm has a hole coupled to the stud. The fixing arm is fixed on an outside surface of the rectangular rim of the mask frame. The connecting arm has a second plane substantially parallel to the first plane of the shadow mask and spaced apart from the first plane by a first distance. The first distance is greater than a second distance between the first plane and a third plane passing a center line of the stud (Figure 5).

The Gorog reference discloses the claimed invention except for the limitation of the connecting arm being wave shaped. The Yun reference teaches that various shapes can be used for the bracket assembly, including a wave-shaped bracket (Figure 9). The bracket helps to support the mask frame and compensate for thermal expansion (English abstract). It would have been obvious to one of ordinary skill in the art at the time the invention was made to use a wave-shaped bracket assembly, as taught by Yun, to help compensate for thermal expansion.

Regarding claim 12, the Gorog reference discloses that the suspending arm and fixing arm are parallel to the tube axis and perpendicular to the connecting arm (Figure 5).

Regarding claim 15, the recitation “characteristic for absorbing vibration transmitted from both said mask frame and said panel and offsetting the vibration” has not been given patentable weight because is considered an intended used recitation. It has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations.

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Regarding claim 17, the Gorog reference discloses that the bracket has a bent formed between the connecting arm and any one of the suspending arm and fixing portion (Figure 5).

Regarding claim 18, the Gorog reference discloses the claimed invention except for the limitation of a connecting arm having a length of 5-40 mm. It has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. Thus, it would have been obvious to one of ordinary skills in the art at the time the invention was made to have a connecting arm with a length of 5-40 mm, since discovering an optimum value of a result variable is considered within the skills of the art.

Regarding claim 19, the Gorog reference discloses the claimed invention except for the limitation of the fixing arm and suspending arm being spaced apart by a length of 5-40 mm. It has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. Thus, it would have been obvious to one of ordinary skills in the art at the time the invention was made to space the fixing arm and suspending arm 5-40 mm apart, since discovering an optimum value of a result variable is considered within the skills of the art.

Regarding claim 20, the Gorog reference discloses a bracket having an opening formed between the free ends of the suspending arm and fixing arm and the opening opposite to the connecting arm. The Gorog reference also discloses a stud disposed between the opening and the connecting arm (Figure 5).

Regarding claim 21, the Gorog reference does not disclose the flange of the rectangular rim is disposed in the second plane of the connecting arm. However, it is noted that the placement of the connecting arm in relation to the flange of the rectangular rim is not shown to solve any problems or yield any unexpected results that are not within the scope of Gorog's

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bracket assembly. Accordingly, the placement of the connecting arm in relation to the flange of the rectangular rim is considered to be an obvious matter of design choice.

Regarding claim 22, the Gorog reference discloses that the skirt of the shadow mask is closer to the third plane of the stud than the second of the connecting arm (Figure 5).

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Akoh et al. (USPN 6,437,495) has a bracket that is U-shaped.

Ichigaya et al. (USPN 4,798,992) has several variations on bracket shape.

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Response to Arguments

8. Applicant's arguments filed 6/10/2003 have been fully considered but they are not persuasive.

Regarding applicants claim that Gorog does not disclose a shadow mask with a skirt, the examiner respectfully disagrees. Figure 1 clearly shows the shadow mask with a skirt portion. The skirt portion is used to attach the shadow mask to the mask frame. The third plane passes through the stud and the second plane passes through the connecting arm. The skirt of the shadow mask is closer to the third plane than the second plane.

Regarding applicants claim that Gorog does not disclose a rectangular rim on the mask frame with a flange vertically extending from a rear end of the rectangular rim towards the tube axis, the examiner respectfully disagrees. Figures 1 and 5 both show a shadow mask frame with a rectangular rim and flange (Figure 1, Element 38). Figure 5 shows both the rectangular rim and the flange as element 40. The bracket is attached to the outside surface of the rectangular rim.

Regarding applicants claim that the 103 rejection for claims 6 and 8 does not address the change in shape, the examiner respectfully disagrees. The rejection clearly states in the last sentence that it would have been obvious to one having ordinary skill in the art to alter the shape of the connecting arm to wave shaped and round, since such a modification would have involve a mere change in the shape of a component.

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Contact Information

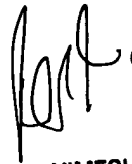
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Holly Harper whose telephone number is (703) 305-7908. The examiner can normally be reached on Monday-Friday from 8:30 AM to 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimesh Patel, can be reached on (703) 305-4794. The fax phone number for the organization where this application or proceeding is assigned is (703) 308-7382.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.



Holly Harper
Patent Examiner
Art Unit 2879



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